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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,142	08/21/2003	John E. Irvine	011314-1120	7158
24504	7590	04/27/2005	EXAMINER	
THOMAS, KAYDEN, HORSTEMEYER & RISLEY, LLP 100 GALLERIA PARKWAY, NW STE 1750 ATLANTA, GA 30339-5948			MAYO, TARA L	
		ART UNIT		PAPER NUMBER
				3671

DATE MAILED: 04/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/645,142	IRVINE, JOHN E.	
	Examiner Tara L. Mayo	Art Unit 3671	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 14-16 and 24-29 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) 1-13 17-23 are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/19/03</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1 through 13, drawn to a process for producing a reinforced structural element, classified in class 428, subclass 122.
  - II. Claims 14 through 29, drawn to a reinforced structural element, classified in class 405, subclass 274.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by pultrusion.

3. This application contains claims directed to the following patentably distinct species of the claimed invention:

Species A, a planar reinforced structural panel, as seen in Figures 1 and 2;

Species B, a substantially planar reinforced structural member including laterally extending sidewalls, as seen in Figure 3;

Species C, an I-shaped structural member including a longitudinally extending reinforcement member, as seen in Figure 4A;

Species D, an I-shaped structural member including a longitudinally extending reinforcement member having ends laterally offset from one another, as seen in Figure 4B;

Species E, an I-shaped structural member including a longitudinally extending reinforcement member having ends extending in the same direction, as seen in Figure 4C;

Species F, a structural member including a pair of reinforcing elements that are V-shaped in cross section, as seen in Figure 5A;

Species G, a structural member including a pair of U-shaped reinforcing elements disposed substantially parallel and juxtaposed to one another, as seen in Figure 5B;

Species H, a U-shaped reinforced structural member, as seen in Figure 6;

Species I, a U-shaped reinforced wall panel segment having male and female end connectors, as seen in Figure 7A; and

Species J, a reinforced wall panel segment having male and female end connectors, as seen in Figure 7B.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 14, 15 and 25 through 29 are generic to all the species; claims 16 and 17 are generic to Species B through E and H through J; claim 18 is generic to Species C through E; claim 19 is generic to Species B through E and H; claim 23 is generic to Species B and H; and claim 25 is generic to Species I and J.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable

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thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

4. During a telephone conversation with George Thomas on 12 April 2005 a provisional election was made without traverse to prosecute the invention of Group II, Species I, claims 14 through 16 and 24 through 29. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1 through 13 and 17 through 23 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Claim Objections***

5. Claim 29 is objected to because of the following informalities: inconsistent claim terminology. In claim 29 on lien 1, delete "holes" and insert therefor --openings--. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 24 recites the limitation "said opposed lateral edges" on line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim 24 recites the limitation "said male and female interlocking connectors" on lines 5 through 6. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 14 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Dingler (U.S. Patent No. 5,511,355A).

Dingler '355, as seen in Figures 1 and 3, shows a reinforced structural member comprising:

with regard to claim 14,

an elongate reinforcing structure formed of high strength material defining an array of equally spaced openings therethrough;

an exterior body of water-impermeable material positioned about and in contact with said reinforcing structure; and

wherein said reinforcing structure is encapsulated within said exterior body; and  
with regard to claim 25,

wherein said high strength material is aluminum (col. 3, lines 65 through 66).

#### *Claim Rejections - 35 USC § 103*

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 14, 15 and 25 through 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nottingham (U.S. Patent No. 6,715,964 B2) in view of Ellison et al. (U.S. Patent Application Publication No. 2003/0003828 A1).

Nottingham '964, as seen in Figure 7, discloses a reinforced structural member (700) comprising:

with regard to claims 14 and 27,

an elongate reinforcing structure formed of high strength material (col. 8, lines 45 through 49); and

an exterior body of water-impermeable synthetic material positioned about and in contact with said reinforcing structure (col. 8, lines 45 through 49);

with regard to claim 25,

wherein said high strength material is aluminum (col. 8, line 47);

with regard to claim 26,

wherein said high strength material is fiberglass (col. 8, line 47); and

with regard to claim 27,

said exterior body having a length, a width and a thickness.

Nottingham '964 fails to teach:

with regard to claim 14,

the reinforcing structure defining an array of equally spaced openings and being encapsulated within the exterior body;

with regard to claim 15,

the reinforcing structure being comprised of steel and having a thickness from approximately 0.010 to 0.750 inch;  
with regard to claim 27,

the reinforcing structure defining an open network of opening therethrough, the exterior body being locked to the reinforcing structure by extending through the openings, the reinforcing structure extending along the entire length and width of the exterior body and having greater tensile and compressive strengths than the exterior body; and

the exterior body surrounding the reinforcing structure;  
with regard to claim 28,

the reinforcing structure comprising expanded sheet metal; and  
with regard to claim 29,

the holes in the reinforcing structure retarding the spread of corrosion.

Ellison et al. '828, as seen in Figures 2 through 6, disclose a plastic article comprising a reinforcing structure (48) encapsulated (paragraph 0038) between plastic layers (40, 50), wherein the reinforcing structure extends along the entire length and width of the plastic layers and has greater tensile and compressive strengths than the plastic layers, wherein the reinforcing structure may comprise a metal or metal mesh (paragraph 0008; i.e., having equally spaced openings), wherein the exterior body is locked to the reinforcing structure by extending through the openings, and wherein the openings in the reinforcing structure retard the spread of corrosion.

With regard to claims 14, 27 and 29, it would have been obvious to one having ordinary skill in the art of stock materials at the time the invention was made to modify the device shown by Nottingham '964 such that it would include an array of equally spaced openings as taught by Ellison et al. '828. The motivation would have been to uniformly reduce the overall weight of the reinforcing structure while simultaneously enhancing the strength.

With regard to claims 14 and 27, it would have been obvious to one having ordinary skill in the art of stock materials at the time the invention was made to modify the device shown by Nottingham '964 such that it would include an encapsulated reinforcing structure as taught by Ellison et al. '828 to improve impact resistance or flexural strength (paragraph 0041).

With regard to claims 15 and 28, while both Nottingham '964 and Ellison et al. '828 are silent with respect to the particular type of metal used as reinforcement, it is a well-known expedient in the art of material to use both steel and expanded sheet metal for reinforcing composite structures.

With regard to claim 15, Nottingham '964 and Ellison et al. '828 fail to teach the claimed range of thickness for the steel reinforcing structure. It would have been obvious to one having ordinary skill in the art of stock materials at the time the invention was made to make the thickness between 0.010 and 0.750 inch since it has been held that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

With regard to claim 28, the method of forming the exterior body is not germane to the issue of patentability of the device itself. Therefore, the limitation of extrusion has not been given patentable weight.

12. Claims 16 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nottingham (U.S. Patent No. 6,715,964 B2) in view of Ellison et al. (U.S. Patent Application Publication No. 2003/0003828 A1) as applied to claim 14 above, and further in view of Lewis (U.S. Patent No. 5,333,971A).

Nottingham '964 further shows:

with regard to claim 24,

the exterior body including a male interlocking connector and a female interlocking connector on opposite lateral edges.

Nottingham '964 and Ellison et al. '828 fail to teach:

with regard to claim 16,

the reinforcing structure comprising a substantially planar elongate central wall and a pair of side walls extending along opposed lateral edges of the central wall; and

with regard to claim 24,

the reinforcing structure including a plurality of planar sections and a pair of lateral edges.

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Lewis '971, as seen in Figures 1 and 2, shows a structural member (10) comprising a substantially planar elongate central wall (18) and a pair of side walls (17) extending along opposed lateral edges of the central wall; or a plurality of planar sections (14, 16 and 18) and a pair of lateral edges (17).

With regard to claims 16 and 24, it would have been obvious to one having ordinary skill in the art of wall structures at the time the invention was made to modify the device such that it would be shaped as taught by Lewis '971. The motivation would have been to permit its use in a wall structure.

### *Conclusion*

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tara L. Mayo whose telephone number is 571-272-6992. The examiner can normally be reached on Monday through Friday 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will can be reached on 571-272-6998. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
tm  
14 April 2005

  
ROBERT E. PEZZUTO  
PRIMARY EXAMINER